



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
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August 22, 2000

MEMORANDUM TO: Distribution

FROM: Victor M. McCree, Deputy Director, DRP */RA/*

SUBJECT: SUMMARY OF ROP LESSONS LEARNED MEETING,
AUGUST 16-17, 2000

This memo provides a summary of a meeting held in Region II from August 16-17, 2000, to discuss lessons learned from the first quarter of initial implementation of the Reactor Oversight Process. The primary objective of the meeting was to obtain the views of Region II Senior Resident Inspectors regarding problems and successes that they have experienced in implementing the ROP and to develop recommended program changes for problem areas. The meeting summary, meeting agenda, a list of meeting participants, a list of the successes and problems ascribed to the ROP, a list of problem statements and recommended program changes, and the handouts used during the meeting are attached.

Attachments: As stated

Distribution: Region II SRIs
L. Reyes
B. Mallett
L. Plisco
C. Casto
H. Christensen
W. Dean
DRP Branch Chiefs

SUMMARY OF ROP LESSONS LEARNED MEETING, AUGUST 16-17, 2000

A meeting was held in Region II from August 16-17, 2000, to discuss lessons learned from the first quarter of initial implementation of the Reactor Oversight Process (Attachment 1). The primary objective of the meeting was to obtain the views of Region II Senior Resident Inspectors (SRIs) on problems (and successes) that they have experienced to date in implementing the ROP and to recommend program changes for problem areas. 15 of the 18 Region II SRIs, the Director and Deputy of DRP, the DRP Branch Chiefs and the Chief, Inspection Programs Branch, NRR, were the primary meeting participants. The Regional Administrator, other regional senior managers and the Associate Director for Inspection and Programs, NRR (Day 1 only) were also present during the meeting and participated in some of the discussions.

The Regional Administrator opened the meeting. He welcomed the participants and indicated that the meeting should focus on identifying the major issues affecting the program. He specifically encouraged the SRIs to be mindful of the difference between the "ideal" (inspection program) and the "practical", and to consider the significant progress already made under the ROP as compared to the previous inspection program. In a quote from Peter Drucker, a noted management analyst, he observed, "The best way to predict the future is to create it! "

The Director, DRP reviewed the meeting objectives, agenda, logistics and ground rules with the participants. The objectives were threefold: to obtain specific program feedback from the SRIs on the ROP; to develop recommendations to remedy those problems which are considered significant; to obtain a general sense of "where we are" in implementing the ROP. In meeting the objectives, the Director formed three working groups (Groups 1, 2 and 3) each composed of five SRIs. They were tasked to work in two Breakout Sessions to produce the following:

- Session #1 List in Priority Order the Problems with the ROP that need to be addressed
List of Successes (What is working)

- Session #2 Detailed problem statement/Current guidance or expectation
Recommendations for program changes

As an output of Session 1, each Group developed a list of perceived Problems and Successes with the ROP (Attachment 4). Each Group presented their issues and responded to comments and questions from the meeting participants. The Director and Deputy DRP sorted the Problems into eight general areas: Administrative Burden; Procedure Guidance; Thresholds; Plant Status; SDP Worksheets; Performance Indicators; Documentation; and Procedure Content. The SRIs were then given three "votes" and asked to "rank the eight categories of problems by order of significance; this was done to enable the SRIs to focus on the most significant issues during Session 2. Based on their "vote", the SRIs concluded that Administrative Burden (assigned to Group1), Procedure Guidance (assigned to Group 2), and Thresholds (assigned to Group 3) were the most significant problem areas. The output of Session 2 was a list of detailed problem statements and recommendations for program changes (Attachment 5).

The Director DRP gave an overview of ROP implementation activities and highlighted several issues discussed in the recent monthly ROP updates. He reiterated the FAQ guidance regarding deep backshift, noting that the primary objective is to enhance public confidence and the intent is to allocate backshift hours throughout the year.

With respect to management expectations regarding procedures and hours, the Director reiterated that during the initial implementation of the ROP, residents are expected to read the procedures and to complete them as written (irrespective of the budgeted hours). This will allow us to gain a better understanding of what it takes to implement the new program. Branch Chiefs are also expected to discuss with the residents those charges that vary significantly from the budget (higher or lower) and, in doing so, allow management to obtain insights regarding the focus and scope of the procedures, and program "variables" (i.e., differences in the hours charged due to the (in)efficiency of inspection at different sites; differences in the hours charged due to the (in)efficiency in obtaining needed information from the licensee; and differences in the hours charged because significant issues required more time for follow-up). These insights will be used as feedback to NRR to facilitate ROP program and budget adjustments.

The Director discouraged residents from engaging in "innovative accounting" of hours and to attribute hours accurately to the program areas. The Director also promoted the use of the ROP Feedback Form as a mechanism to advance needed and desired changes in the program.

Finally, the Director provided a brief summary of a meeting that took place on the morning of Day 1, between DRP Branch Chiefs and the Associate Director for Inspection and Programs, NRR. In general, the Branch Chiefs indicated no major flaws with the new program, but rather implementation problems typical of those expected in a significant program change (such as the ROP). The Director noted the similarity between the problem areas raised by the Branch Chiefs and the problems identified by the SRIs. The issues discussed by the Branch Chiefs were as follows:

- lack of timely response to feedback forms
- lack of consistency in report comments
- lack of clarity regarding the "right" version of IMC 0610*, and unclear criteria regarding the scope section of reports
- Security SDP
- use of resident inspectors to inspect the areas of HP, Security and/or Transportation
- ISFSI inspections
- licensing basis issues associated with fire protection inspections
- scope of SSDIs
- threshold questions
- supplemental procedures too rigid

Mr. Bill Dean, Chief, Inspection Program Branch, NRR provided his observations on the ROP and responded to questions from the meeting participants. He indicated that overall, although we completed the pilot program and initial ROP implementation has begun, it is still a work in progress. He noted that MC 0610*, our guidance document for documenting inspections, is our

vehicle to effect a paradigm shift in the way we conduct business. It is currently receiving considerable attention in areas such as thresholds, how to document issues, level of detail required, and PIM entries. The Action Plan for the next six week includes: incorporating the feedback, differentiating between minor and philosophical issues, resolving inconsistencies between MC 0605, 0609, and 0610*, conducting a page-by-page review of MC 0610*, resolving any philosophical issues, and finally a formal change notice and issuance of the final guidance by the end of September. Mr. Dean discussed a number of other issues, including:

SDP flow chart and general SDP issues:

- Safeguards presents numerous challenges and SDP problems; interim and long-term guidance will be developed; the SDP will likely be revised or truncated
- the Fire Protection SDP works adequately, but applies over conservatism; more-realistic scenarios must be developed; this may happen at a workshop in October

Performance Indicator issues:

- Manual Scrams; this is a sensitive issue for licensees; a public meeting will be held with NEI in early September to discuss this issue further
- Unplanned Power Changes. This is generally a good Performance Indicator but does not differentiate between changes resulting from equipment problems or those due to human factors issue. This issue is expected to be addressed later this Fall
- Safety System Unavailability; how should fault exposure time be evaluated?
- Thresholds; those related to the Maintenance Rule must be further defined
- PI FAQs. The approved FAQs are posted on the external NRC web page; in-process FAQs are posted on the internal NRC web page; the NRR Oversight web page has numerous valuable links
- "Overhauls." These issues have been going back and forth between INPO, the NRC, licensees, etc. and can found on the NEI web site; currently, credit is given for major planned required overhaul of a component if the licensee has done a formal quantitative risk analysis; NEI supports qualitative risk analysis
- Temporary Instruction on interpretation/verification; region views on this TI have been requested via feedback forms
- Feedback Forms; IIPB is working to provide an initial response within two weeks.
- Fire Protection. There are currently numerous circuit analysis issues and an industry initiative is under development; NRR expects to review it soon

Future Issues:

- NRC is interested in a licensee data base (similar to the INPO EPIX data base) that provides reliability issues for use in risk-based PIs; there is currently industry resistance to this idea
- Industry-Wide Assessments: Continuing to trend issues while a data base is developed; ASP Program

ROP LESSONS LEARNED MEETING AUGUST 16-17, 2000
AGENDA

August 16

- 1200 Introduction/Objectives (Loren Plisco)
- 1245 Break
- 1300 Breakout Session #1 (Prioritize Problem Areas and List Successes)
- 1500 Breakout Session #1 Reports
- 1545 Selection of Top 3 Problem Areas and Group Assignment
- 1600 Breakout Session #2 (Discussion of Problem Areas)
- 1700 End of Day 1

August 17

- 0800 Continue Breakout Session #2 (Discussion of Problem Area)
- 0930 Breakout Session #2 Reports
- 1045 Break
- 1100 Region II experience to date (Loren Plisco)
- 1200 Lunch
- 1300 Program Office Feedback (Bill Dean)
- 1430 Break
- 1445 Self-Assessment Process (Bill Dean)
- 1545 End of Day 2

Breakout Groups

Group 1

D. Roberts
T. Johnson
T. Easlick
R. Musser
R. Gibbs

Group 2

M. Shannon
J. Zeiler
C. Patterson
M. Widmann
J. Bartley

Group 3

S. Shaeffer
T. Ross
J. Brady
M. Morgan
W. Smith

Not Attending

S. Stewart (B&W Training)
J. Munday (Chairman Rotation)
B. Desai (Annual Leave)

**ROP LESSONS LEARNED MEETING, AUGUST 16 -17, 2000
MEETING PARTICIPANTS**

L. Reyes, RA
B. Mallett, DRA
L. Plisco, DDRP
V. McCree, DD, DRP
W. Dean, Chief, IIPB/NRR
C. Casto, DDRS
H. Christensen, DD, DRS
C. Ogle, Chief, DRP Branch 1
S. Cahill, Chief, DRP Branch2
L. Wert, Chief, DRP Branch 3
R. Haag, Chief, DRP Branch 5
P. Fredrickson, Chief, DRP Branch 6
D. Roberts, SRI Catawba
T. Johnson, SRI Farley
T. Easlick, SRI Brunswick
R. Musser, SRI Surry
R. Gibbs, SRI Sequoyah
M. Shannon, SRI Oconee
J. Zeiler, SRI Vogtle
C. Patterson, SRI Turkey Point
M. Widmann, SRI Summer
J. Bartley, SRI Watts Bar
S. Shaeffer, SRI McGuire
T. Ross, SRI St. Lucie
J. Brady, SRI Shearon Harris
M. Morgan, SRI North Anna
W. Smith, SRI, Browns Ferry
P. Vandoorn, DRS
R. Carrion, DRP

ROP PROBLEMS AND SUCCESSES

GROUP 1

PROBLEMS

- G1- 1. SDP Phase 2 Worksheets
- G1- 2. Plant Status to Inspectable Area Transition
- G1- 3. Use of Inspection Procedures is Inconsistent (ATT15, OWAs)
- G1- 4. Guidance Not Clear on Inspector "Following Your Nose"
- G1- 5. RITS (Mgmt of Hrs.)
- G1- 6. Thresholds of issues Groups 1 & 2 Questions
- G1- 7. Resource estimates not enough when issues are found
- G1- 8. RITS guidance may not be consistent with procedures (609)
- G1- 9. Control of inspection guidance (e.g., 0610*)
- G1- 10. Rules associated with PIs
- G1- 11. Inspector visibility
- G1- 12. What is a licensee performance issue.
- G1- 13. Level of detail in report for no findings
- G1- 14. Balancing U-1 and U-2 Inspections?
- G1- 15. Procedure requirements vs. threshold of significance (e.g., ATT12-MR)
- G1- 16. Other SDPs where equipment related to Rx not affected... or security
- G1- 17. Region resource mgt (i.e., SRIs performing PI&R inspections)
(for "N" sites)
- G1- 18. Inspection of cross-cutting issues (including disposition) esp. human performance.

GROUP 1

SUCCESSES

- G1- 1. Completion of Program - Exception (Future resource management: N+1)
- G1- 2. Inspection Planning
- G1- 3. Inspectable Areas Well Defined
- G1- 4. Communication of Findings
- G1- 5. Outage Procedure
- G1- 6. Phase I SDP (Initiating Events, Mitigating Sys.)
- G1- 7. Supplemental Procedures
- G1- 8. Web site Communications
- G1- 9. Qtrly Reports
- G1- 10. Plant Status Guidance

GROUP 2

PROBLEMS

- G2- 1. Inconsistent expectations for implementation of inspections (managing hours, while trying to determine hours)
- G2- 2. Administrative burden of bean counting
- G2- 3. What to do with time when complete allocated sample sizes.
- G2- 4a. Minor issue definition still subjective (threshold)
- G2- 4b. Threshold for crosscutting issues (human performance) (PI&R)
- G2- 4c. Guidance for PI&R documentation thresholds not clear
- G2- 5. MC 0610 Guidance vs MC 0609 inconsistent (TSs)

- (repetitive issues)
- G2- 6. Charging time for follow up of issues identified during inspections (i.e., force fitting reactive hours).
 - G2- 7. Plant Status - tour all plant areas vs risk significant areas
 - G2- 8. SDP Proficiency - more training (refresher)

GROUP 2**SUCCESSSES**

- G2- 1. Use risk to resolve safety issues that were not regulatory
- G2- 2. Minor compliance issues no longer forced thru enforcement process
- G2- 3. Deletion of inspection areas that had no risk value
- G2- 4. Quarterly reports

GROUP 3**PROBLEMS**

- G3- 1. Lack of Experience "Hands On" by Management
 - 1a. - RII and/or NRR
 - 1b. - People who don't fully understand the problem/program are interpreting it
- G3- 2. More admin than before -
 - 2a. Less Inspection
- G3- 3. Little or No Independent Inspection
 - 3a. Reactive
 - 3b. Core/Baseline
- G3- 4. Plant Status Hours Not Really Sufficient For Walkdowns
 - 4a. (No Risk Arguments)
 - 4b. (Biweekly Before; Weekly New)
- G3- 5. Inconsistency in threshold of findings - (Branch to Branch - Month to Month)
 - 5a. Subjectivity vs Literal
 - 5b. Interpretations of Minor Violations vs NCVs
- G3- 6. Inconsistency on the "Target Hours"
 - 6a. "Don't Worry About the Hours - **BUT** -
 - 6b. The Hours Appear to Be Important
 - 6c. Managers are not too happy with "too many" hours in any one area
- G3- 7. Effectiveness of PI&R (71152) Not Apparent
- G3- 8. Flood Protection - Heat Sink (Specialists Needed)
- G3- 9. Too often inspecting Maintenance Rule (Not enough risk-significance)
- G3- 10. PI's - Mixed Signals - How Far Back Do We Go?
- G3- 11. Not Enough Time Allotted for F.P. - (Too Often Performed)
- G3- 12. Drill Events (E.P.) - Not Enough Hours (Not Performed Enough)
- G3- 13. Adverse Weather - Guidance Seems to be addressing cold weather -
 - 13a. What about Hurricane/Tornado?
- G3- 14. Why unit hour assignments and not site? (Understand that this has been resolved - clarification needed)

GROUP 3

SUCCESSSES

- G3- 1. Enforcement
 - 1a. Link to Risk to Public
 - 1b. Public Awareness of Problem
- G3- 2. Public Awareness and Access
- G3- 3. More Effective? Use of Inspector Hours
 - 3a. - More Balance
 - 3b. - More Coverage
- G3- 4. Enforcement Less Subjective
- G3- 5. Qtrly Reports
- G3- 6. "Briefer" Reports
- G3- 7. Risk Informed Findings
- G3- 8. Use of Manpower
 - 8a. Easier Accountability
 - 8b. Additional Ease w/Site Secretary
- G3- 9. Easier to Supervise

PROBLEM STATEMENTS AND RECOMMENDED PROGRAM CHANGES

Administrative Burden (Group1)

Problem Statement 1: Management of inspection hours by Regional management implies that the Resident Inspectors are “required” to strictly adhere to the resource “estimates” in the program documents.

Recommendations: Because the Reactor Oversight Program (ROP) is in its initial implementation phase, the Resident Inspectors should complete the Inspection Procedures as written, to ensure a proper understanding of what is really required to complete the program.

Note: A minority view from this group was that all resource estimates should be eliminated during the initial implementation phase of the program to obtain completely unbiased resource expenditures. The results could then be used to establish realistic resource estimates for program implementation/completion.

Problem Statement 2: Two inspectors may not be able to complete the Baseline Inspection Program at a two-unit site when other initiatives (e.g., team inspections) are assigned to those inspectors. The current Regional management guidance/expectation is that the Baseline Inspection Program is to be completed while also completing other initiatives, such as:

- PI & R
- SSDI
- Supplemental Inspection Procedures
- Objectivity Visits
- Support for other Regions

Recommendations: Better inspection planning with respect to managing inspector resources (including the effective use of Project Engineers and DRS inspectors for backfill) should be practiced during inspection planning meetings.

Note: This issue also applies to N+1 sites when the program is completed early.

Problem Statement 3: The lines of transition (i.e., direct inspection, follow-up, assessment, etc.) for tracking inspection hours during an inspection are not clear. The current management guidance/expectation is defined in the RITS guidance.

Recommendations: Revise the RITS guidance to better reflect these “lines of transition.”

Procedure Guidance (Group 2)

Problem Statement 1: The use of the Inspection Procedures is not consistent (i.e., Attachments 05, 15, 16, IP 71114.06, etc.). Expectations on the part of the inspector are not clear (i.e., Inspection Objectives statements of the IPs, insufficient samples available); the understanding

of IP implementation is not clear (i.e., follow-up vs. “follow your nose;” variations in inspection scope result in significant difference in expended hours -- examples: Fire Protection and Emergency Preparedness); and specialized training is needed for some procedures (i.e., Heat Sink and Flood Protection).

Recommendations: Identify specific affected procedures; replace the Inspection Objectives statements with layman’s expectation of what the Resident Inspectors are expected to do; provide training, (including specific technical training) on individual procedures; provide a charge code for reactive inspections.

Problem Statement 2: The control of guidance (i.e., using the wrong revision or using a “draft” document -- examples: EICS Enforcement Policy and MC 0610*) is an unnecessary burden for the Resident Inspectors.

Recommendations: Establish and maintain a repository of official documents (i.e., Inspection Procedures, Manual Chapters, ROIs, etc.), including revision/date, accessible by computer, and use only these. Do not use draft documents.

Problem Statement 3: There is insufficient time allowed for Emergency Preparedness drill inspections/participation, thereby reducing valuable inspection/experience opportunities for the Resident Inspectors.

Recommendations: Increase the number of inspection hours and augment the number of Resident Inspectors during a drill with Project Engineers, DRS inspectors, and/or visiting Resident Inspectors.

Thresholds (Group 3)

Problem Statement 1: Group 1, 2, and 3 Questions are being applied inconsistently.

Recommendations: Provide guidance on the questions as follows: Group 1 Questions, incorporate written definitions and examples in MC 0609; Group 2 Questions, “harmonize” these with Phase 1 SDP; Group 3 Questions, re-order the flow chart logic to place traditional enforcement after Group 1. Also, to assure consistent implementation throughout the Region/Agency, conduct meetings and/or workshops to provide training. Furthermore, issues related to this topic discussed at the Branch Chief morning meeting and summaries and findings resulting from any Regional workshops should be forwarded to the Resident Inspectors. The Summary of Findings from the Quarterly Reports should be distributed to the Resident Inspectors. Maintain a “living” list.

Problem Statement 2: Cross-cutting issues are not well defined and there is no clear guidance on how to assess and disposition them.

Recommendations: Incorporate guidance in the PI & R and provide detailed guidance for the PPRs.

HANDOUT - SUMMARY OF FINDINGS FOR REGION II, 3RD QUARTER FY 2000

Reactor Safety

Cornerstone: Mitigating Systems

Green. The licensee failed to properly classify a maintenance rule functional failure of the Unit 2 A steam generator power operated relief valve (2SV-19) when it failed to open on April 15, 2000. The licensee incorrectly assumed that the valve's failure was not a functional failure because other redundant valves were available at the time. This issue was determined to have very low safety significance because the licensee's error did not result in additional equipment unavailability (Section 1R12.1). (Catawba 2000-03)

Green. The licensee failed to include in its maintenance rule scope an accident mitigating function for a control room alarm associated with emergency core cooling system post-accident leak detection capability. The alarm was tied to residual heat removal and containment spray pump room sump levels and was identified in 1998 as a mitigating function, as described in the Catawba Updated Final Safety Analysis Report. As a result, two functional failures were not properly classified in February 2000. This issue was characterized as a non-cited violation of 10 CFR 50.65 (b)(2) and was determined to have very low safety significance because the licensee's scoping and functional failure determination errors did not directly result in additional unavailability of the alarm function (Section 1R12.2). (Catawba 2000-03)

Green. Steam generator power operated relief valve 2SV-19 failed to open on April 15, 2000, due to Mispositioned nitrogen pressure regulators, which are required to function during a design basis event involving the loss of normally available instrument air. The licensee determined the Mispositioned regulators to be a human performance issue, but were not able to pinpoint when the actual mispositioning took place. This issue was determined to have very low safety significance due to the availability of other steam generator power operated relief valves and diverse means of cooling the secondary plant (Section 1R22.2). (Catawba 2000-03)

Green. Residual heat removal and containment spray pump room sump level alarm function was lost for several months up to February 2000 due to inadequate maintenance procedures associated with sump level switch calibrations. This issue was characterized as a non-cited violation of Technical Specification 5.4.1 and was determined to be of very low safety significance due to the availability of other emergency core cooling system leak detection methods (Section 4OA3.2). (Catawba 2000-03) (71153)

Green. A non-cited violation of 10 CFR 50, Appendix R, was identified for reactor coolant pump 1B1 and 2A1 oil collection systems not being capable of collecting lube oil from all leakage locations in August 1998 and June 1999, respectively. This issue was determined to have very low safety significance, because adequate fire detection equipment was installed in the associated reactor buildings and the arrangement of safety-related equipment was such that the likelihood of a reactor coolant pump oil fire affecting any safety systems was minimal (Section 1R05.3). (Oconee 2000-05)

No Color. A non-cited violation of 10 CFR 50.72 and 50.73 was identified for failure to report to the NRC conditions outside of the design basis, involving instances of reactor coolant pump 1B1 and 2A1 oil collection system leaks in August 1998 and June 1999, respectively (Section 1R05.3). (Oconee 2000-05)

Green. The inspectors identified a non-cited violation of Technical Specification 5.4.1 concerning a failure to follow work control procedures on June 26, 2000, for delaying planned maintenance on Unit 3 Standby Breaker S₁₋₃ and performing preventive maintenance out of sequence. This resulted in an increased likelihood of an initiating event while one of the emergency power supplies was degraded. This issue was determined to have very low safety significance due to the low probability of actually causing an initiating event and that the emergency power supplies were not completely lost (Section 1R13). (Oconee 2000-05)

Green. The inspectors identified a non-cited violation of Technical Specification 5.4.1 for an inadequate operating procedure that was used during Unit 2 power escalation on April 19, 2000. Specifically, because the operating procedure did not prohibit it, operators continued to increase Unit 2 reactor power after nuclear instrumentation became greater than 2 percent non-conservative. This resulted in reactor protection system trips for nuclear overpower, reactor coolant pump to power, and nuclear overpower flux/flow imbalance becoming inoperable. This issue was determined to have very low safety significance in that other reactor trip functions were available to protect the reactor core (Section 1R14.2). (Oconee 2000-05)

Green. The inspectors identified a non-cited violation of Technical Specification 5.4.1 for failure to properly implement procedures to calibrate the controls to Unit 1 equipment room chilled water valve 1WC-191 following replacement of the valve on March 8, 2000. This resulted in a failure to supply cooling water to one air handling unit for the Unit 1 equipment room. This issue was determined to have very low safety significance because the other train of equipment room cooling was available during the period that chill water valve 1WC-191 was inoperable (Section 1R19). (Oconee 2000-05)

Green. The inspectors identified a non-cited violation of Technical Specification 3.5.3 for failure to maintain one Unit 3 train of low pressure injection operable in the emergency core cooling system mode during Mode 4 on April 13, 2000. This issue was determined to have very low safety significance because the operators had control of the danger tags and could have energized the valve operator breakers if required. In addition, it was determined to have very low safety significance because of the reduced reactor coolant temperatures and the short duration that the valves were inoperable (Section 1R20). (Oconee 2000-05)

Green. The inspectors identified a non-cited violation of Technical Specification 5.5.9 for failure to refurbish or to replace seven Unit 3 relief valves that had failed to meet their respective relief valve testing acceptance criteria in April 2000. This issue was determined to have very low safety significance because the relief valves would still function to relieve pressure, although slightly outside the prescribed limits, and therefore, were considered to be functional although degraded (Section 1R22.2). (Oconee 2000-05)

Green. The inspectors identified a non-cited violation of Technical Specification 5.5.9 for establishing improper test acceptance criteria which did not meet the American Society of

Mechanical Engineers code design requirements for ensuring that relief valves would achieve rated lift capability at less than 10 percent above system design. This issue, identified in April 2000, was determined to have very low safety significance because the relief valves would still function to relieve pressure, although slightly outside the prescribed limits, and therefore, were considered to be functional although degraded (Section 1R22.2). (Oconee 2000-05)

Significance to be Determined. On April 22, 2000, during the Unit 3 refueling outage, the licensee partially flooded the low pressure injection pump room. This issue was considered to have potential risk significance in that the other low pressure injection pumps were inoperable due to maintenance and modification work. In addition, a potential violation of 10 CFR 50 Appendix B, Criterion XVI was identified for the flooding of the Unit 3 low pressure injection room, because corrective actions for previous LPI room flooding incidents had not been adequately implemented. Pending further review, the flooding issue with the related potential violation, was considered to be an unresolved item (Section 1R23). (Oconee 2000-05)

Green. The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, for inadequate corrective actions taken relative to abnormal indications during a post maintenance test of the Unit 2 turbine driven auxiliary feedwater pump. On subsequent surveillance tests, the pump operation was erratic and often tripped on overspeed during startup and, therefore, failed to meet operability test requirements. The issue was determined to be of very low safety significance based on the limited duration and intermittent nature of the problem, on the ability of operators to recover, and because both redundant motor driven pumps were available. (Section 1R19.2) (Farley 2000-03)

Green .A non-cited violation of the fire protection program was identified for a failure to establish an adequate procedure to demonstrate the operability of the engine driven fire pump (EDFP) 24 volt battery charger and battery. This failure resulted in the inability of the engine driven fire pump to start when called upon to accomplish its fire or risk-related function. The licensee performed satisfactory troubleshooting, timely repair of the damaged battery charger, and replacement of the dedicated fire batteries. The motor driven fire pump and jockey pumps were unavailable for a short time while the EDFP was considered inoperable; therefore, the issue is considered to be of very low safety significance (Section 1R19). (Brunswick 2000-03)

GREEN. A non-cited violation was identified for the failure to have an adequate procedure in effect to provide alternative shutdown capability (i.e., to achieve and maintain a safe shutdown condition) in the event of a main control room fire. This is a violation of Technical Specification 6.8.1.a. The issue was of very low safety significance due to the very low fire initiating event frequency associated with the condition. (Section 4OA3.6) (North Anna 2000-03) (71153)

GREEN. A non-cited violation was identified for failure to have an operable emergency diesel generator (EDG) during Unit 1 fuel handling activities (TS 3.8.1.2.b), and to have a loop of service water unavailable for longer than allowed (TS 3.7.4.1) when Unit 2 was in Mode 1. The violations resulted from 1H EDG unknowingly being inoperable due to oil in the 1H EDG cylinder and the 1J EDG being removed for maintenance. The issue was of very low safety significance because during the time frame both Unit 1 EDGs were inoperable, two independent offsite power supply circuits were operable and capable of supplying power to safety related

equipment and the station blackout diesel was available to provide power if necessary. (Section 4OA3.2) (North Anna 2000-03) (71153)

GREEN. The inspectors identified a non-cited violation in which the licensee failed to follow a required procedure which rendered the anticipated transients without scram mitigation system actuation circuit (AMSAC) inoperable while the plant was operating at power. This is a violation of Surry Power Station Technical Specifications, section 6.4.A.2. The risk of having the AMSAC inoperable for less than 8 hours was considered to be of very low safety significance because operator recovery actions and procedures were available if needed. (Section 1R20.2) (Surry 2000-03)

NO COLOR. The inspectors identified a non-cited violation in which a modification was implemented to the auxiliary ventilation system that prevented parallel operation of both fans in the minimum safeguards alignment which would result in one or both fans tripping following an actuation signal. The post-modification testing did not verify proper operation with both fans operating simultaneously. This is a violation of 10 CFR 50, Appendix B, Criterion III. The issue was of very low safety significance since the operators could have manually aligned the system for operation. The plant design allowed sufficient time to manually actuate the system such that the safety functions would be performed. (Section 1R22) (Surry 2000-03)

GREEN. A non-cited violation was identified for the failure to have an adequate procedure in effect to provide alternative shutdown capability (i.e., to achieve and maintain a safe shutdown condition) in the event of a main control room fire. This is a violation of 10 CFR 50, Appendix R, Section III.L.3. The issue was of very low safety significance due to the very low fire initiating event frequency associated with the violation condition. (Section 4OA5.3) (Surry 2000-03) (71153)

Green. A non-cited violation of Technical Specification 5.7.1.1 was identified for an inadequate chemistry procedure utilized for the prevention of Asiatic clam infestations. Partial blockage of piping for containment spray and residual heat removal pump room coolers was discovered during licensee troubleshooting of a low flow condition. The finding had very low risk significance because licensee analysis showed that the coolers remained functional (Section 1R19). (Watts Bar 2000-03)

Cornerstone: Initiating Events

Green. A non-cited violation of Technical Specification 5.4.1 was identified for a failure to follow administrative procedural controls to verify that a working copy of an operating procedure was the latest revision. On May 14, 2000, this resulted in an approximate 150 percent over-pressurization of the Unit 3 low pressure injection and building spray suction piping. This issue was determined to have very low safety significance due to the actual pressure not exceeding the allowable piping pressure (Section 1R14.3). (Oconee 2000-05)

Green. The inspectors identified a non-cited violation for failure to follow the turbine generator system operating procedure, as required by Technical Specification 5.4.1a, which resulted in a Unit 1 automatic reactor trip. The issue was of very low safety significance because the trip

was uncomplicated, all mitigation systems functioned properly or remained operable, and barrier integrity was not challenged. (Section 4OA3.2) (Farley 2000-03) (71153)

GREEN. A non-cited violation was identified for plant personnel failing to follow plant approved maintenance activity procedures. This is a violation of Unit 2 Technical Specification (TS) 6.8.1.a. The procedure violation resulted in a reactor coolant pump trip and a manual reactor trip on Unit 2 and a recognition that the 1H emergency diesel generator was inoperable when the diesel failed to start. The issue had very low safety significance for Unit 2 due to the safety systems performing as designed. On Unit 1, the issue was also of low safety significance due to the following mitigating factors: (1) the short time that the 1H emergency bus was unavailable; (2) the availability of safety related equipment powered by the 1J emergency bus; and, (3) the availability of the station blackout diesel generator. (Section 1R14.2) (North Anna 2000-03) (71153)

Green. A non-cited violation of Technical Specification (TS) Limiting Condition for Operation (LCO) 3.9.4 was identified for operators' failure to comply with the action statement requiring insertion and disarming of a control rod with a malfunctioning "full in" position indicating light during control rod testing on Unit 3. The finding had very low safety significance because administrative controls were in place to prevent more than one control rod from being withdrawn at any given time during the test (Section 1R14). (Browns Ferry 2000-03)

Green. A non-cited violation of TS LCO 3.3.1.2 was identified for operators placing the Unit 3 reactor mode switch out of the shutdown position to perform reactor mode switch testing with less than the required number of operable source range monitors (SRMs). The finding had very low safety significance because the requirements of LCO 3.10.2 (i.e., no core alterations and all control rods inserted) were maintained at all times during reactor mode switch testing. In addition, the required TS surveillance required for SRM operability was subsequently completed satisfactorily on the A, B, and D SRMs (Section 1R20). (Browns Ferry 2000-03)

Cornerstone: Initiating Events, Barrier Integrity

Green. The inspectors identified a non-cited violation of a clearance procedure required by Technical Specification 5.4.1. Operators incorrectly modified and verified a clearance restoration order, causing approximately 50 gallons of reactor coolant to be vented to atmosphere in the reactor building. An individual and an elevation of the reactor building were contaminated. However, operators expeditiously recognized and isolated the leak, minimizing the radiological and plant consequences. The vent line was also small bore piping, limiting the size of the leak. Consequently, the issue was determined to be of very low safety significance. (Section 1R14). (Hatch 2000-03)

Green. The inspectors concluded that the licensee had not adequately considered the effects of removing the Unit 2 condensate pump area cooler from service. However, the operator's quick response to the annunciator and recovery of the system resulted in no challenge to the condensate system or plant operations (Section 1R13). (Hatch 2000-03)

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

GREEN. The licensee removed the B trains of Component Cooling Water (CCW) and charging from service during preventative maintenance on a CCW valve without recognizing that this placed the plant in an elevated risk level as defined in the licensee's safety function matrix. As a result, provisions of Operations Administrative Procedure (OAP)-102.1, "Conduct of Operations Scheduling Unit," Revision 3, concerning evaluating the configuration and obtaining the General Manager's approval were not met. Since there was no actual loss of safety function with A train CCW and charging available and operable, this issue was determined to be of very low safety significance. No violation occurred since the licensee complied within the time constraints of the applicable technical specification limiting conditions for operation and the procedure will not be required by regulations until the revised sections of the Maintenance Rule (10 CFR 50.65) become effective in November 2000. (Section 1R13) (Summer 2000-04)

Cornerstone: Barrier Integrity

Green. The licensee did not properly evaluate plant risk associated with emergent work for the Unit 2 hydrogen ignition system on April 27, 2000. As a result, the unit was in an unevaluated increased risk condition while planned work associated with the containment spray system was ongoing. This condition was allowed by Technical Specifications and plant procedures, but plant procedures required that a written contingency plan be developed prior to the work commencing, which was not done. This issue was of very low safety significance due to the availability of diverse and redundant systems designed to accomplish the hydrogen mitigation and containment pressure control functions (Section 1R13). (Catawba 2000-03)

Green. The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion III, for failure to evaluate the compatibility and suitability of materials, used to help seal the containment purge valves, prior to installation and use of the materials on the containment purge valves. This issue was determined to have very low safety significance in that the valves were tested prior to operation and again prior to the start of the refueling outage and no increase in leakage or degradation was identified (Section 1R17.2). (Oconee 2000-05)

Green. The inspectors identified a non-cited violation of Unit 2 Technical Specification 3.4.15 requirements for the reactor coolant system leak detection systems. The issue was determined to be of very low safety significance because the monitors are not safety significant and redundant indications and systems were available to the operators to monitor for potential leaks. (Section 1R14) (Farley 2000-03)

Green. A non-cited violation was issued for failure to establish an adequate procedure for satisfying Technical Specification (TS) surveillance requirement 4.7.6, Control Room Emergency Filtration System (CREFS) in that the procedure used for that purpose included actions which rendered both trains of the CREFS inoperable, a condition not allowed by the TS. The safety significance was low because the CREFS cannot initiate a reactor transient and is

not used to mitigate core damage, and because, although the CREFS performs a barrier function by protecting the control room staff from the effects of a release of radioactive materials, the subject procedure rendered the CREFS inoperable for only a few minutes every 18 months (Section 1R22). (Harris 2000-02)

GREEN. A non-cited violation was identified for inadequate surveillance testing procedures associated with the performance testing of the safeguards area exhaust dampers and air accumulators. The time duration specified in the procedures for determining air leakage from the system's accumulators was not sufficient for determining whether the exhaust dampers would remain open for 30 days following a design basis loss of coolant accident. This is a violation of Technical Specification 6.8.1.c. After the exhaust dampers were tested with the revised surveillance procedures, they were determined to not meet the 30 day requirement. The issue was of very low safety significance since the auxiliary building central ventilation system (although not seismic class 1 nor class 1E powered) can serve as a backup to the safeguards exhaust ventilation system by manual realignment through the charcoal filters. In addition, the emergency core cooling pumps located in the safeguards building can operate in excess of 24 hours without ventilation cooling. This would allow sufficient time for the radioactive dose to decrease enough for plant personnel to install a temporary air supply or restore instrument air. (Section 4OA3.3) (North Anna 2000-03) (71153)

Green. A non-cited violation of TS 5.4.1 was identified for an inadequate procedure utilized for the compensatory measures taken upon loss of both Unit 2 shutdown board room coolers which required actions that would cause a loss of function of the control room emergency ventilation (CREV) system and could degrade the radiation barrier designed to protect the control room operators during a design basis accident. The finding had very low safety significance because it represented a degradation of the radiological barrier function provided for the control room only. Modified compensatory actions to close certain dampers would result in the CREV system remaining operable (Section 1R15). Browns Ferry (2000-03)

Green. A non-cited violation of Technical Specification 6.8.1.a was identified for a deficient emergency operating procedure used for mitigation of loss of coolant accidents (LOCAs) outside containment. The procedure, ECA-1.2, "LOCA Outside Containment," was deficient because it provided inappropriate guidance involving reactor coolant system pressure trending for determination of LOCA isolation. In addition, the guidance differed from the Westinghouse Owners Group guidance without formal documented justification. The procedure deficiency, which was revealed during a licensed operator requalification simulator training exercise, could lead to untimely isolation of a LOCA and termination of a containment bypass condition for an actual plant event. This deficiency had very low safety significance because of the low initiating event frequency of the LOCA that could cause the event and other operator actions which could effectively mitigate the event thus further reducing the risk of core damage. (Section 1R11). (Sequoyah 2000-05)

Cornerstone: Emergency Preparedness

Green. The inspectors identified a non-cited violation of 10 CFR 50.47 and licensee procedure FNP-0-EIP-9.0, Emergency Classifications and Actions, for failure to initially classify and report a Unit 1 loss of offsite power condition as a Notification of Unusual Event. Personnel error by the operating shift and a weak procedure were the causes. The licensee made a late notification the following day. This issue was determined to be of very low safety significance because the unit was defueled at the time and because of the low classification level. (Section 4OA3.1) (Farley 2000-03) (71153)

Radiation Safety**Cornerstone: Occupational Radiation Safety**

Green. On October 23, 1999, Health Physics (HP) technicians providing high radiation area job coverage failed to provide positive controls in accordance with Improved Technical Specification 5.8.1.c, for two contract workers performing leadscrew cleaning and inspection activities under Radiation Work Permit 99-0146. The two workers received cumulative doses of 330 and 550 millirem which exceeded the 250 millirem (mrem) cumulative dose expected for the task. Since there was no substantial potential for overexposure to occur based on the expected job duration (1 to 2 hours), and the maximum general area dose rates (300 mrem per hour), this finding was determined to be of very low safety significance. This finding was identified as a Non-Cited Violation (NCV) for failure to provide continuous health physics coverage required by Improved Technical Specification 5.8.1.c for work conducted in a High Radiation Area (Section 2OS1.2). (Crystal River 2000-02) (71121.01)

Green. Collective dose expenditures for three high dose rate/dose evolutions conducted during the October 1999 Refueling Outage exceeded their original dose expenditure estimates by more than 50 percent. For steam generator tube maintenance activities, actual dose expenditures exceeded both the original and revised dose projections by more than 50 percent. For eddy current testing and scaffolding activities, revisions to the dose estimates were not conducted and documented until after the original dose expenditure estimates were exceeded. Differences between the original and revised estimates resulted from elevated dose rates, expanded job scope, and/or worker performance. Since the tasks did not result in any individual doses exceeding 10 CFR Part 20, Subpart C, Occupational Dose Limits, this finding was determined to be of very low safety significance. (Section 2OS2). (Crystal River 2000-02) (71121.01)

Green. A non-cited violation of Technical Specification requirements was identified for the licensee's failure to provide occupational radiation workers with functioning personnel radiation monitoring dosimetry. Technicians entering the Unit 2 drywell on May 6, 2000, were provided electronic dosimeters that were not properly configured to measure the worker's personnel radiation exposure. This issue was characterized as having very low safety significance because the ability to assess dose was not compromised, and no over-exposure occurred (Section 2OS1). (Brunswick 2000-03) (71121.01)

Cornerstones: Occupational and Public Radiation Safety

Green. A non-cited violation was identified for the failure to comply with the requirements of 10 CFR 20.1802. Specifically, on April 7, 2000, the licensee failed to prevent the release of

radioactive byproduct material (e.g., a radioactive particle on a contract employee's lanyard) from the radiological control area and plant site. Based on the activity of the particle and the resulting occupational dose assessment for the affected contract employee, this finding was determined to be of very low significance (Sections OS2, 2PS3). (Catawba 2000-03) (71121.01)

Cornerstone: Public Radiation Safety

GREEN. As of April 10, 2000, selected atmospheric effluent process monitor calibrations did not meet 10 CFR Part 20.1501(b) requirements. Specifically, secondary calibration sources in-use since the early 1990's for the particulate and gaseous channel detectors were not traceable to the original primary detector calibrations. Evaluations of the effect of geometry and fabrication differences between the original, vendor-supplied sources and the current secondary calibration sources identified a potential 25 percent bias in expected detector response. Based on the identified bias, the current detector responses for monitoring radioactive material concentrations and for establishing set-point values were determined to be conservative. Since effluent releases did not result in doses exceeding Appendix I to 10 CFR Part 50 design criteria nor 10 CFR 20.1301 concentration limits, this finding was considered to be of very low safety significance. An additional example of a previously issued non-cited violation (50-395/99006-03) was identified. (Section 2PS1) (Summer 2000-04) (71122.01)

Safeguards

Cornerstone: Physical Protection

GREEN. The inspectors identified a non-cited violation for the failure to comply with the requirements of the Physical Security Plan (PSP). Specifically, the officer providing the last access control function, at the Primary Access Control on March 27, 2000, and at the Secondary Access Portal on April 26, 2000, did not remain isolated within a hardened structure in order to satisfy the requirements of the PSP. Based on the other response and assessment capabilities in place as well as the licensee's previous four-quarter performance in this area, these findings were determined to be of very low risk significance. (Section 3PP2) (Surry 2000-03) (71130.03)

Green. A non-cited violation of the Physical Security Plan was identified for the licensee's failure to secure two vital area openings exceeding 96 square inches in February 1999. This issue was determined to have very little significance, given the non-predictable basis of the failures and the fact that there was no evidence that the vulnerabilities had been exploited (Section 3PP2). (Catawba 2000-03) (71130.03)

Other Activities

Apparent Violation. An apparent violation of TS 5.4.1 was identified for apparent deliberate failure to implement measuring and test equipment (M&TE) control procedures which resulted in approximately 500 nonconformance evaluations either not being issued or completed for M&TE which had been identified as out-of-tolerance or otherwise meeting the criteria for evaluation (Section 1R19). (Browns Ferry 2000-03)

A supplemental inspection was conducted in accordance with Inspection Procedure 95001, Inspection for One or Two White Inputs in a Strategic Area. The purpose of the inspection was to assess the licensee's evaluation associated with a Unit 3 White PI [Safety System Unavailability for the Heat Removal System, Reactor Core Isolation Cooling (RCIC)]. On December 30, 1998, during a manual start of the Unit 3 RCIC to perform a TS surveillance, there was no turbine speed indication in the control room, although there was indication of pump flow and pressure. A broken connector was found on the wiring to the turbine speed sensor. The licensee considered the sensor cable connector failure to have been an isolated, random failure, with possible damage due to personnel working in the area with the connector disconnected and hanging loose (the connector was not as vulnerable when assembled). The licensee stated that it could not determine the exact cause of the failure because the internal parts of the connector could have been broken for an extended period and the connector still could perform its function, as long as the pins were making contact. Although Unit 2 was not inspected at the time of the identification on Unit 3, subsequent disassembly and inspection on January 14, 2000, not related to the Unit 3 failure, did not identify any degradation of the connector on the Unit 2 RCIC. The licensee's corrective actions were appropriate for the circumstances (Section 40A5). (Browns Ferry 2000-03) (95001)

HANDOUT - ROP FEEDBACK FORMS BY REGION (REGION 2)

HANDOUT - 3RD QUARTER ROP RITS HOURS BY IPE & ACTIVITY CODE